XLVII.—*Notes on a 'Catalogue of* Accipitres *in the British Museum' by* R. Bowdler Sharpe (1874). By J. H. Gurney.

(Continued from p. 329.)

Mr. Sharpe has united the genera *Baza* and *Avicida* under the former title; and it seems to me that the distinction between these two genera is sufficiently slight to make their fusion permissible, though it should be mentioned that Mr. Ridgway has expressed a contrary opinion in his 'Studies of Falconidæ,' p. 153; but, agreeing in this respect with Mr. Sharpe, I differ from the course which he has adopted in including the genus *Baza* amongst his "subfamily Falconidæ." In common with several previous writers, I look upon *Baza* as belonging to the group Pernes, and as constituting the concluding genus of the very extensive Milvine subfamily to which this group is, in my view, attached. In connexion with this subject, I may quote the following remarks on the osteology of *Baza madagascariensis* from the important work of MM. Milne-Edwards and Grandidier on the birds of Madagascar, vol. i. p. 75:—"Cette étude détaillée des caractères ostéologiques du *Baza madagascariensis* montre que cet oiseau diffère trop complètement des Faucons pour pouvoir prendre place dans la même famille, qu'il ressemble bien plus aux Milans et aux Boudrées, et que si la forme de sa tête osseuse et de son appareil sternal n'était pas toute spéciale, on pourrait le considérer comme appartenant au genre *Pernis*."

The genus *Baza* seems to me to assort itself into four natural subdivisions:—the first consisting of *B. cuculoides* and *B. verreauxi*; the second of *B. madagascariensis*; the third of *B. subcristata, B. reinwardti, B. rufa, B. erythrothorax, B. magnirostris, B. ceylonensis,* and *B. sumatrensis*; the fourth of *B. lophotes,* which, it may be mentioned, is the type of the genus.

It may be observed that the first of these subdivisions comprises the two African species, the second that which is limited to Madagascar, the third the Australian and Oceanic races, whilst the fourth consists of a species inhabiting India and the Malay countries; it ought, however, to be noted, as a modification of this distribution, that *B. lophotes* occurs in Ceylon, whilst *B. ceylonensis* and *B. sumatrensis* have been obtained on the continent of Asia—a circumstance to which I shall have to refer in treating of those species.

I propose to adhere to the order in which I have enumerated the several species in the few remarks which I shall make respecting them.

We are indebted to Mr. Sharpe for pointing out a ready mode of distinguishing the adults of *B. verreauxi* from those of *B. cuculoides*, which I believe had not been noticed by any previous author, and which may be quoted in his own words, "under wing-coverts uniform rufous*, . . . , *cuculoides*; under wing-coverts barred with rufous and white . . . *verreauxi*." In their first plumage the two species seem to me to be undistinguishable.

Mr. Sharpe describes the type specimen of *B. cuculoides* (which is preserved in the Cambridge Museum) as "above ashy brown, with a cindery grey on the interscapulary region, the head and crest darker, and more inclining to slaty black;" but in a specimen from the river Gaboon, which is preserved in the British Museum, and which is adult, with the exception of a very narrow rufous nuchal collar, probably a relic of immaturity, the slaty-black hue is not confined to the head, but extends generally over the mantle, with the exception of the concealed white bases to the feathers, the proportion of white on these feathers being greatest on the lower scapulars In this specimen the slate-colour of the mantle is decidedly blacker and less grey than is the colour of the corresponding parts in the adult of *B. verreauxi*.

Mr. Ridgway, in his remarks on the genera *Avicida* and *Baza*, to which I have already referred, has the following passage:—"*A. verreauxi* . . . . indentations of the tomia double; *A. cuculoides* . . . . indentations of the tomia single,"—as to which I may observe that in the specimens of *Baza cuculoides* which I have examined, consisting of two in the British and two in the Norwich Museum, the indentations of the tomia are double, just as in *B. verreauxi*, but in both species the hinder tooth is but little developed in very young birds*. I may add that Swainson describes the type specimen of his "*Aviceda cuculoides*" as having "two teeth on each side" of the bill (*vide* 'Birds of West Africa,' p. 104).

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* Mr. Sharpe gives a figure of *Baza cuculoides* showing the rufous under wing-coverts (*vide* pl. 11. fig. 2, of his work).

The Norwich Museum possesses a specimen of *B. cuculoides* from Bissao, which is the most northerly locality from which I have seen this species. It has been found as far southward as Landana, Loango, an immature male from thence having been recorded by Messrs. Sharpe and Bouvier in the 'Bull. S. Z. de la France' for 1876, p. 301. This specimen was noted by the collector as having "pattes et paupières jaunes, yeux jaunes verdâtres," and is fully described by Messrs. Sharpe and Bouvier, the immature plumage not having been previously alluded to by Mr. Sharpe in his Catalogue.

The most northerly specimen of *B. verreauxi* which I have seen is an adult in the the Norwich Museum from the Zambesi country; its southern range extends to Natal, but not, so far as I am aware, to the south of that colony. This species seems to be limited to the countries adjacent to the south-eastern coast of Africa, and *B. cuculoides* to those on the western coast: neither species has, I believe, ever been obtained at any great distance inland.

With regard to *Baza madagascariensis*, I may observe that, since the publication of Mr. Sharpe's volume, an important article upon that species (from which I have already quoted) has appeared in the great work on the birds of Madagascar by Milne-Edwards and Grandidier, with figures of the bird, its skeleton, and details of its osteology*.

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* A similar phenomenon occurs in *Baza lophotes*, of which species Captain Legge, in his 'Birds of Ceylon,' remarks, "In birds of the year the anterior tooth is less developed than in the adult, and the second or posterior notch is not developed."

I may also mention that a female in the Norwich Museum, which is probably not fully adult, shows on the upper part of the tail three distinct cross bars of pure white, differing, in this respect, from the specimens described by Mr. Sharpe.

Baza subcristata is the next species which I have to notice; and with respect to it I have only to remark that Mr. Sharpe gives the habitat of this species as "North Australia," but that Mr. E. P. Ramsay, in his 'Catalogue of Australian Accipitres,' p. 47, defines its range, more precisely, as extending over "the whole of the north-eastern portion of Australia, from Cape York to the Clarence River," from which I infer that it has not been obtained in the western parts of Northern Australia.

Mr. Ramsay describes the colour of the iris, which is not mentioned by Mr. Sharpe, as "bright yellow."

The next species, found to the northward, *Baza reinwardti*, is a native of New Guinea and of several of the neighbouring islands, its range extending eastward to the Solomon group†, and westward to the islands of Timor and Bouru; a list of the localities in which it has been obtained will be found in Count Salvadori's 'Prodromus Ornithologiæ Papuasiæ et Moluccarum,' p. 4; but to this list the island of Timor should be added, as specimens obtained by Mr. Wallace in that island are preserved in the British Museum‡, and recorded in 'The Ibis' for 1868, p. 18; there should also be added to the list Cape Pitt, Solomon Islands, on the authority of Mr. E. P. Ramsay*.

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* *Vide* 'Hist. Nat. des Oiseaux de Madagascar,' vol. ii. pls. 19, 20, and 21.

† "This group marks the farthest limit of many of the peculiar animal forms of New Guinea" (*vide* 'Australasia,' edited by A. R. Wallace, p. 471).

‡ The Norwich Museum contains two specimens of *Baza reinwardti* which were purchased from the "Maison Verreaux," and marked by the late M. Jules Verreaux as having been obtained in Borneo. I think it probable, however, that this is an error, as I know no instance of this species having been recorded as a native of that island.

The following notes of measurements of several specimens of *B. reinwardti* lead to the inference that the size of this species is not materially influenced, if at all, by its geographical distribution. I may add that for the dimensions here given of specimens in the British Museum I am indebted to the kindness of Mr. Henry Seebohm; the other examples enumerated have been measured by myself.

	Wing. inches.	Tarsus. inches.	Middle toe *s. u.* inches.
One from the New-Britain group, in the possession of Dr. Sclater..	12·5	1·3	1·5
Seven from North-western New Guinea, of which one is in the British and six in the Norwich Museum	11·1 to 12·5	1 to 1·4	1·2 to 1·5
One from the Fly River, New Guinea, in the possession of Mr. Whitely	12·8	1·4	1·5
One from Salwatty, in the Norwich Museum	11·5	1·2	1·2
Three from Timor, in the British Museum (marked by Mr. Wallace as males)	11·75 to 12	1·3 to 1·35	1·29 to 1·35
One from Ceram, in the British Museum	11·75	1·25	1·35
One from Ceram, in the Norwich Museum	11·9	1·3	1·3
Three from Amboina, of which two are in the British and one in the Norwich Museum	11·6 to 12·5	1·3 to 1·32	1·25 to 1·4

With the above measurements may be compared the following, taken from a female obtained on the "mainland of South-east Papua, eight miles from Yule Island," and given by Mr. Sharpe in the Journal of the Linnean Society (Zoology), vol. xiii. p. 309—"wing 12·5, tarsus 1·35."

Amongst the distinctions between the immature and the adult dress of *B. reinwardti* which are pointed out by Mr. Sharpe in his Catalogue, one leading feature is that the lower breast and abdomen are, in the young bird, "barred with blackish more narrowly than in the adult;" the widening of these dark bars, and their assumption of the slaty-grey tint, which seems to be their final colouring, is, apparently accomplished very gradually, and a similar gradual course of change probably characterizes the variations observable in the barring of the tail.

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* *Vide* 'Proceedings of the Linnean Society of New South Wales,' vol. iv. p. 66.

Mr. Sharpe, in his valuable paper on Dr. Meyer's collections of birds, published in the 'Mittheilungen des k. zool. Museums zu Dresden' for 1878, says, under the head of *Baza reinwardti*, "the young bird is distinguished not only by its browner plumage, but by its tail, which is brown, with five dark brown bars, whereas in the old bird the tail is grey, with two basal bars and one broad terminal* bar of black."

This, as a general statement, is quite correct, but some variation in the number and character of the caudal bars occasionally occurs. One young bird in the Norwich Museum has five such bars as described by Mr. Sharpe; two other immature, but more advanced specimens, in the same collection, have only four dark bars; in one of these examples the entire adult plumage has been attained, with the exception of the tail, all the feathers of which are still those of the immature dress. A fourth specimen, killed whilst moulting, only retains two immature brown rectrices, both of which are lateral and bear six dark-brown transverse bars; and it is remarkable that a new lateral grey feather also bears six bars, but of a slaty-black hue on a grey ground; the central rectrices are also new and similarly coloured, the bands upon them being two in number, besides the subterminal one. These four specimens are all from North-western New Guinea.

In one of the specimens in the Norwich Museum, said to be from Borneo, but probably incorrectly, there is but one dark bar above the subterminal band on all the rectrices, and this is imperfect on the central pair; the subterminal band is broad in this specimen, its depth being 2·8 inches.

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* This bar, perhaps, ought rather to be termed "subterminal," as it is usually succeeded by a slight pale tip to the rectrices.

A very similar specimen in the Norwich Museum, the locality of which is unknown, has also one imperfect upper bar on all the rectrices, except the two external pairs, which show two irregular upper bands; the subterminal bar in this specimen is 3·5 inches in depth. This bird also much resembles the example from the New-Britain group, recorded by Dr. Sclater in the P. Z. S. for 1877, p. 109; but there is no reason to think that it is from the same locality, as it was purchased in Paris many years since, at a period when, so far as I know, no birds from the New-Britain group had, as yet, reached Europe; M. Parzudaki, from whom it was obtained, had incorrectly labelled it "*Baza subcristata*, Australie."

The New-Britain specimen above referred to, and the only one which I have been able to examine from that locality, has three dark upper bars on the external pair of rectrices, two on the next pair, and a single indistinct one on the remainder; the subterminal band is 3·25 inches in depth.

Mr. E. P. Ramsay, in his "Contributions to the Zoology of New Guinea," published in the 'Proceedings of the Linnean Society of New South Wales,' expresses a strong opinion that specimens of *Baza* which he has seen from New Ireland are specifically distinct from an example of *B. reinwardti* that he had received from Port Moresby in New Guinea; but the latter specimen is not, as it seems to me from the description given of it, an adult one, and I much doubt whether the differences mentioned by Mr. Ramsay can be considered specific; thus Mr. Ramsay remarks that in the Port-Moresby bird the primaries "are banded right across on all," but that in his New-Ireland specimens "the primaries are not crossed altogether." I have, however, seen specimens from localities other than New Britain or New Ireland in which the upper transverse bars on the primaries are imperfect. Again, the cross-barring on the thighs observed by Mr. Ramsay in his Port-Moresby specimen is only an occasional variation, and is absent from the majority of New-Guinea specimens. Mr. Ramsay, in his notes on the zoology of the Solomon Islands, to which I have already referred, has the following entry under the head of *Baza reinwardti* :—" One specimen, exactly agreeing with the Port-Moresby birds, from New Guinea, Loc. Cape Pitt."

Mr. Sharpe includes amongst the synonyms of *Baza reinwardti* " *Lophastur jerdoni*, Blyth, J. A. S. B. xi. pt. 1, p. 464, and xv. p. 4 ;" but I cannot think that Blyth's description warrants this identification. The description seems to me to accord better with *Baza erythrothorax* than with any other species, but perhaps differs in the greater extension of the mesial throat-line, which is said to have existed in Blyth's adult specimen on the " throat, fore neck, and breast," whilst in the younger bird it is described as traceable " almost to the vent."

I have carefully examined the throat-mark in the specimens of *B. erythrothorax*, four in number, in the Norwich Museum, and find that in three of them the mesial line does not descend lower than the throat, but in the fourth (a male from the Sula Islands) an imperfect trace of it exists as low as the centre of the upper breast.

I know not whether Mr. Blyth's type specimens of his " *Lophastur jerdoni* " are still in existence, and fear that such may not be the case ; but if they are still to be found, a re-examination of them would be extremely desirable.

As specimens of *B. erythrothorax* are rare in collections, it may be worth while to subjoin some measurements taken from those in the Norwich Museum.

	Wing. inches.	Tarsus. inches.	Middle toe *s. u.* inches.
No. 1. From the Sula Islands, marked ♂ by Mr. Wallace	11·1	1·2	1·4
No. 2. From the Sula Islands, also marked ♂ by Mr. Wallace, but perhaps incorrectly	12·0	1·2	1·45
No. 3. From Macassar, marked ♀ by Mr. Wallace	12·0	1·2	1·3
No. 4. Exact locality and sex unknown	12·0	1·2	1·5

Mr. Sharpe describes *B. erythrothorax* as having a "black head and dark cinereous ear-coverts." Nos. 2 and 3 in the foregoing list agree with this description; but in Nos. 1 and 4 the fore part of the crown of the head is rufous, with a blackish-brown shaft-mark to each feather, and the ear-coverts are rufous rather than cinereous.

Mr. Sharpe figures, on plate 10 of his volume, both *B. erythrothorax* and *B. magnirostris**; and I believe he is correct in considering these nearly allied races specifically distinct, the first being limited to the Celebes and Sula groups, and the second to the Philippine Islands, unless Professor Schlegel be correct in referring to *B. magnirostris* a *Baza* brought by Diard from Pontianak, in Western Borneo, which is figured in the 'Valk-Vogels,' pl. 28. fig. 5, and as to which Professor Schlegel remarks, under the head of *Baza magnirostris*, in his Supplement to the 'Museum des Pays-Bas,' Accipitres, p. 135, "Je rapporte notre individu de Borneo à ceux des Philippines." Judging from the figure in the 'Valk-Vogels,' I think it not impossible that this Bornean specimen may belong to a race nearly allied both to *B. magnirostris* and to *B. erythrothorax*, but not identical with either.

Another race, closely allied to *B. magnirostris*, but, I think, specifically distinct, is Captain Legge's very interesting *Baza ceylonensis*, which he has described at length in his work on the 'Birds of Ceylon,' where it is also excellently figured. This species, which was discovered by Captain Legge subsequently to the publication of Mr. Sharpe's volume, has, as yet, only been met with in the island of Ceylon, with the exception of a single immature specimen procured by Mr. Hume from the Wynaad district of South-eastern India, and recorded in 'Stray Feathers,' vol. vii. p. 151, and vol. viii. p. 445.

Mr. Sharpe, on pl. 11 of his Catalogue, gives a figure of an immature specimen of the very scarce *Baza sumatrensis,* a species which was only known as occurring in the island of Sumatra till Mr. Hume, in vol. iii. of 'Stray Feathers,' p. 313, described two older birds—a male obtained in the extreme south of the Tenasserim provinces, and a presumed female from Native Sikhim. Mr. Hume was, in the first instance, doubtful as to the identity of these specimens with *B. sumatrensis*; but the doubt was subsequently removed by a comparison of the Tenasserim specimen with one from Sumatra, preserved in the British Museum, as recorded in 'Stray Feathers,' vol. viii. p. 444.

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* Mr. Sharpe, in his list of synonyms of *B. magnirostris*, includes "*Pernis madagascariensis*, Kaup, Contr. Orn. 1850, p. 77;" but the word "*madagascariensis*" is here inserted by an oversight, as the specific name used by Kaup is "*crassirostris.*"

The measurements of both sexes are noted in Mr. Hume's article above referred to, and they lead to the inference that the specimen in the British Museum must be a male, though marked as a female by Mr. Wallace.

There only remains to be mentioned one other known species of the genus *Baza,* the beautiful *Baza lophotes,* as regards which I would refer to the latest and, in some respects, the fullest account which has been published respecting it, viz. that given in Captain Legge's 'Birds of Ceylon,' where, amongst other matters, the interesting subject of its geographical distribution is carefully discussed. An important note on this species, as observed by Mr. Davison in Tenasserim, ought also to be mentioned, and will be found in 'Stray Feathers,' vol. vi. p. 24.

XLVIII.—*On the Nesting in Confinement of the Snowy Owl.*

By J. H. Gurney.

In 'The Ibis' for 1875, p. 517, I recorded what I believe to be the first known instance of the nesting in confinement of the Snowy Owl (*Nyctea scandiaca*), and of the successful rearing of some of the young birds, thus produced, in the aviary of Mr. Edward Fountaine of Easton, in Norfolk.

In 'The Ibis' for the current year, p. 144, I further recorded that a female bird, one of those thus reared in 1875, had mated with a male that Mr. Fountaine had purchased, and had laid eggs during the summer of 1879, which did not